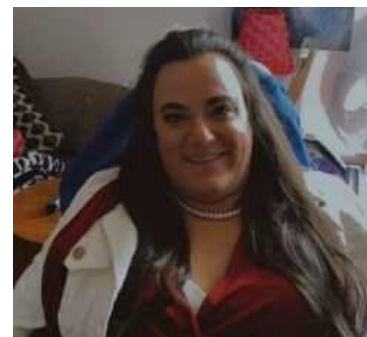


Client: Jacqueline

PT/OT/Supplier: Ryan Read, ATP, Presidential Mobility

Location: Fayetteville, AK

Jacqueline has a diagnosis of cerebral palsy and is now in her mid-30s. She has a B.A. in Psychology with a minor in Speech Communication from the University of Central Arkansas in Conway. Jacqueline also earned a Master of Science in Vocational Rehabilitation from the University of Arkansas at Fayetteville. In 2009, Jacqueline was named Ms. Arkansas wheelchair!



Equipment History

Jacqueline has used a power wheelchair since age 4. She currently has both a manual and power wheelchair. She was using simple linear seating on the power wheelchair before being seen by Ryan Read, ATP. Jacqueline had developed pressure injuries on her heel and spine from pushing against the back of the seating system – a flat board made of foam and vinyl. She had little contact with the back, especially when extending. This unrelieved force was also leading to breakage, including backcanes, legrest hangers and receivers, and footplates. If it didn't break, it moved out of position.

“It got to where I could not sit for more than 3 hours at a time during the day without constant pain... it's significantly reduced since I changed to a dynamic seating system.”

Function

Extending against non-yielding surfaces was also leading to quite a bit of pain. This pain subsequently impacted her sitting tolerance.

Functionally, her high tone made speaking difficult, as well as using her phone and driving the power wheelchair. She uses a

goal post handle on a joystick at her right side and is able to access a smartphone directly using a finger.

Positioning Recommendations

Due to range of motion limitations, Jacqueline's left hip must be abducted 10 degrees from neutral. A Comfort Company custom Saddle cushion was recommended to provide for this increased abduction on the left side. She also has bilateral lateral knee supports to limit further hip abduction. Her left foot turns outward due to this abduction and so the footplate must match this angle. To increase contact with her posterior trunk, a Jay 3 deep back with swing-away lateral trunk supports was ordered. This is mounted offset of midline to the right side to accommodate Jacqueline's trunk position. Jacqueline is on Baclofen for tone management and receives Botox injections intermittently – these interventions impact her tone and, as a result, her postural needs.

Quick Notes

Challenges:

- ✓ Pain
- ✓ Wear and tear on equipment
- ✓ Decreased function
- ✓ Difficulty with speech production

Areas affected:

- ✓ Back
- ✓ Legs
- ✓ Neck

Equipment Used:

- ✓ [Dynamic Rocker Back](#)
- ✓ [Dynamic Footrests](#)
- ✓ [Quantum Rehab Q6 PWC Wheelchair](#)

Dynamic Seating

At first, the supplier was unaware of Dynamic Seating options. After exploring options to reduce equipment breakage, Ryan discovered this area of intervention. He then was not sure if this could be used on a power wheelchair. Once he clarified compatibility, he ordered a Quantum Q6 power wheelchair with a Seating Dynamics Dynamic Rocker Back interface (DRBi) and Dynamic Footrests. The left footplate was rotated outward to accommodate her foot position.

Results

This was the first time Jacqueline used Dynamic Seating and she loved it! Since receiving the DRBi and Dynamic Footrests, Jacqueline and Ryan have seen a number of differences. Jacqueline's pain is much improved, as well as her sitting tolerance. She has not developed any new pressure injuries. Nothing has broken on this new power wheelchair or seating system and needed adjustments are greatly reduced. Overall, function is improved – tasks such as driving the power wheelchair and using her smartphone are easier and more efficient.

Finally, it is easier for Jacqueline to speak. Jacqueline has increased muscle tone throughout her body and extending against non-yielding surfaces only intensified her muscle tone and, as a result, made vocalization very difficult. When the Dynamic Seating is activated, much of her active extension is diffused. This in turn improves her ability to speak. In time, the elastomers in the DRBi needed to be replaced due to wear. Ryan realized these were worn as Jacqueline's speech worsened. After replacing the elastomers, her speech was eased once again.



Jacqueline
Fayetteville, AK

“Dynamic seating moves with my body and hypertonic muscle tone.”

About the Author

Michelle Lange is an occupational therapist with 30 years of experience and has been in private practice, Access to Independence, for over 10 years. She is a well-respected lecturer, both nationally and internationally and has authored numerous texts, chapters, and articles. She is the co-editor of *Seating and Wheeled Mobility: a clinical resource guide*, editor of *Fundamentals in Assistive Technology, 4th ed.*, NRRTS Continuing Education Curriculum Coordinator and Clinical Editor of *Directions* magazine. Michelle is a RESNA Fellow and member of the Clinician Task Force. Michelle is a certified ATP, certified SMS and is a Senior Disability Analyst of the ABDA.
